FORESTRY SCIENCE IN THE SERVICE OF MAN

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TIMBER MANAGEMENT

A Tree Grows For Christmas

Der Tannenbaum, the evergreen, is an indispensible part of Christmas. Decked out in tinsel and shining balls, the Christmas tree brings its unique, festive air into every heart and hearth.

The Forest Service contributes in some measure to the holiday spirit through Christmas tree research. This research is aimed at helping growers produce and market trees that will please more Yule tree shoppers.

The Buyer s Choice

Chances are, your Christmas tree will be a Scotch Pine, Douglas Fir, Balsam Fir, Black Spruce, or Red Cedar, Forest Service economists tell us. Although all species of evergreens are in demand, these five make up 75 percent of the trees sold for indoor holiday use.

Economic theories and statistical studies keep economists of the Industrial Opportunities Project at the Forest Products Marketing Laboratory, Princeton, West Virginia abreast of such trends in the Christmas tree market. Economist Gil Dempsey's staff analyzes what

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the public wants, so they can, in turn, keep growers and distributors informed to provide trees to meet the demand.

The inability of growers and distributors to accurately estimate the size of their market is a crucial problem in Christmas tree production. Being unaware of how many trees can be sold during the Christmas season, they frequently cut and offer for sale either too many or too few. The result is shortage of trees in some areas and a surplus in others, representing a waste in excess of $10 million.

In developing market forecast procedures, researchers examined many aspects of the Christmas tree industry. What did the scientists uncover about the habits of the Christmas tree buyer? His selection is generally based on traditions. Kentuckians usually choose the Red Cedar which is most common in the state, while Easterners favor Balsam Fir or Scotch Pine.

Buyers also select trees on the basis of size, shape, fullness, needle retention capacity, color, freshness, and stem straightness. The six-to-eight-foot tree has the greatest market appeal among homeowners, while apartment dwellers prefer smaller ones.

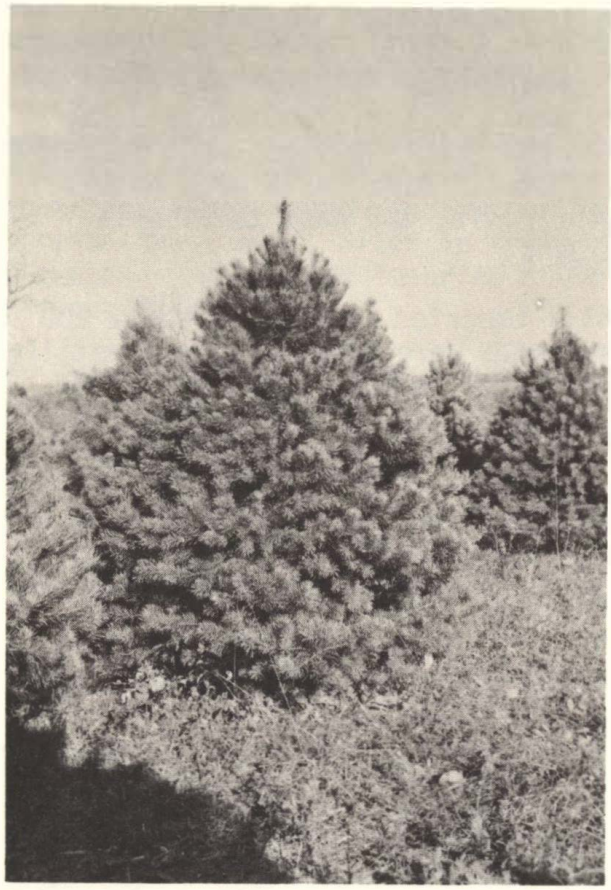
Even though more than a quarter of the tree is out of sight against a wall or hidden in a corner, most buyers pick trees that are symmetrical and uniformly full all around. They require straight-trunked trees that stand tall and erect to facilitate placing in a stand.

One needle characteristic most appreciated by housewives is its ability to remain on the tree through the Christmas holidays -- even on clean-up day. Freshly cut, fragrant, healthy green trees appeal on this basis. Needle length, stiffness, and sharpness also play a role at selection time. Buyers generally find medium-length needles most acceptable.

Possible fire hazard conditions in artificial tree competition are two factors that could effect future tree sales. They are also under study at the Princeton Lab. Because of their potential fire hazard, many cities and towns are beginning to restrict the use of natural trees in institutions and places of public assembly. While such regulations adversely effect sales of natural trees, the extent is not known. The forest economists at Princeton are researching this problem and expect to have the answer soon.

Pastel Painted Evergreens

Scotch Pine is the favorite American Christmas tree. More Scotch Pines are marketed and sold from retail lots for the holidays than any other evergreen.



The Scotch Pine

Its prevalence may be due to the fact that Scotch Pine -- dubbed the "grower's tree" -- is the easiest evergreen to raise. It is hardy, helps stabilize sandy soils, and grows well in many areas. In addition, it responds well to mechanical shearing. This produces the conical shape most appealing to Christmas tree buyers.

But, several types of Scotch Pine have the bad habit of turning yellow when the weather gets cold. With holiday festivities only weeks away, this can be disasterous. After all, who wants a yellow Christmas tree?

Research foresters at the Northeastern Forest Experiment Station at Berea, Ky., suggest painting to keep Scotch Pine crops, which might otherwise be unusable for the Yuletide, appealing. Trees can be colored lively pastels -- pinks, blues, and whites -- as well as natural greens, before they have a chance to turn yellow. Studies by Berea scientists show August of the harvest year the best time for painting.

A gallon of latex-based colorant, diluted in water, can cover 60 trees. It is the same substance that maintains the rich green on golf courses and football fields. A tractor-operated device can spray the paint on six rows of cultivated trees at a time. The cost: only about 10¢ per tree.

International Scotch Pines

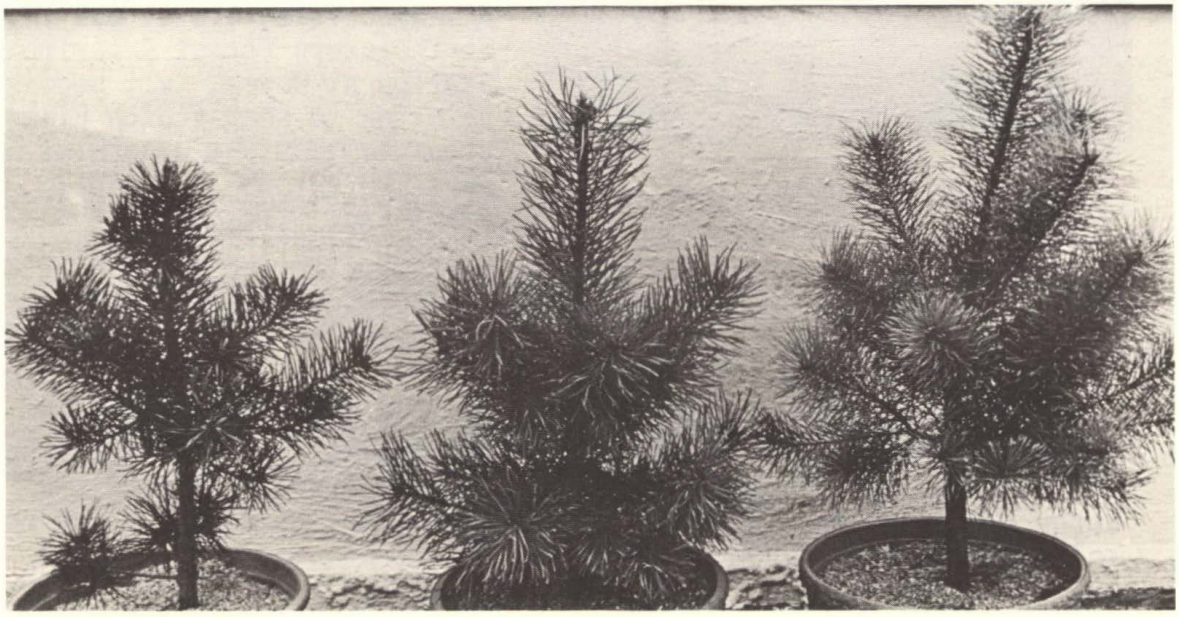
When we think of "races," our first reaction runs to thoroughbreds and greyhounds -- the svelte contest breed -- or to the community of man -- the Mongoloids, Negroids, and Caucasians. But, did you know that there are also different races of Scotch Pines (Pinus sylvestris)? There are! At least twenty-one!

It seems probable that the confounding name "Scotch" was first tacke on to this Pine species by Scottish immigrants when they brought some seed to America from their native land. But Scotland is not its only source. In fact, Scotch Pine has a wide natural range -- from Spain north to Scandinavia, and east to Siberia. There are no native American strains.

Michigan State University recently imported seeds from about 200 different European sites. These seeds were planted experimentally throughout the United States. Research foresters of the Northeastern Forest Experiment Station, Berea, Ky., are cultivating several of these study plots.

Because cultured Scotch Pines are favored over uncultured ones for Christmas use, experimenters hope to determine which races and which lands of origin produce the best seed stocks for production and use in the United States.

So far studies show that those from Spain, Southern France, Yugoslavia, Jordan, Greece, and Turkey are most desirable.



Scotch Pines (l to r) French, Domestic (of unknown seed source), and Riga (from Northern Poland).

Forecast for New Types

If variety is the spice of life, Americans may have a heyday at Christmas tree buying time in the years ahead. On each lot there could be new types to choose from, in addition to the established favorites. A new cooperative research program -- the Foreign Seed Exchange of the Forest Service -- hopes to introduce some new and better strains into the American market for future Yuletide holidays.

Washington Office personnel of the Forest Service, U. S. Department of Agriculture, contacted evergreen producers in a number of foreign countries. They found men anxious to get American seeds and willing to trade their own. Sites in Kentucky and North Carolina now serve as testing grounds for imported seeds from the eastern Mediterranean area and Asia.

One imported species is the Taiwanian cryptomeroides, a distinctive tree in Taiwan. Berea, Ky., Research Forester Russ Walters describes it, "One of the most beautiful trees I've ever known." Quite tall, with long flowing branches, it could make an excellent festive ornament.

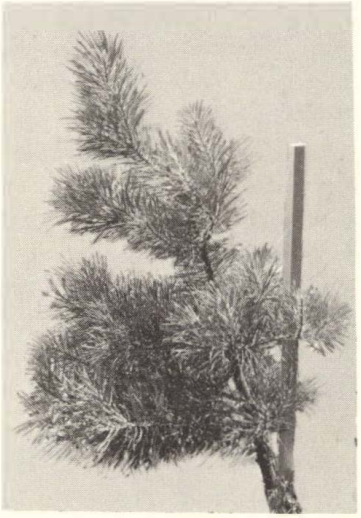
Growing Straight

"A stitch in time saves nine..." Careful planting and protection methods can save many Christmas trees from crookedness and eventual waste.

Evergreen seedlings, inadvertantly planted at an angle, naturally tend to grow vertical like their normally planted neighbors. Early shoots, in groping upward, change growth direction so much that their stems curve. As trees get older, their trunks will display the same crookedness near the base.

Heavy leaves, as well as snow, wind and frost, brusquely force delicate coniferous seedlings to flop into angled positions. The same crooked situation develops. If the tree does not succumb to root exposure first, it will try to compensate for its lean by curving its stem upward.

Since Christmas trees need straight trunks in order to be placed in living room tree holders, evergreens that start off crookedly as seedlings will have to be cut 6 to 12 inches above ground, rather than at ground



A Young Scotch Pine Begins a Crooked Life

level. A crooked stem could, therefore, mean the waste of as much as a year's growth at harvest time.

Silviculturists of the Berea, Kentucky Laboratory of the Northeastern Forest Experiment Station have shown that improved planting methods, followed by proper soil firming during the early stages of tree growth, will reduce crookedness and insure straight-trunked trees.

Other favorite Christmas species: